

# Barley Grass Update (Year 1 2019)



**PERENNIAL PASTURE SYSTEMS**  
MAKING PASTURE GO THE DISTANCE

AGRICULTURE VICTORIA

*Perennial Pasture systems (PPS) in conjunction with Agriculture Victoria are undertaking an on-farm demonstration, co-funded by Meat and Livestock Australia (MLA). The aim of the project is to investigate methods of controlling annual grass in perennial pastures, particularly barley grass. This is being carried out on PPS members farms for the next three years.*

**Author: Tess McDougall, Agriculture Victoria**

In Australia barley grass (*hordeum leporinum*) species are a widespread component of annual pastures, where they provide useful early feed for grazing animals but are considered undesirable later in the season because their sharp seeds can penetrate skin, eyes and the wool of sheep, thereby causing a loss of productivity.

Barley grass infestations can produce prolific numbers of seeds at an estimated 27.5 spikelets/head with 92% fertility (Halloran, G.M. and Pennell, A.L., 1981). You can get an idea of how quickly a barley grass infestation can establish in favorable conditions.

## **Seed head counts and potential viability when measured from a set square at random**

$2,162 \text{ seedheads/m}^2 \times 10,000 = 21,625,000 \text{ seedheads/ha}$

$(27.5 \times 0.92 = 25.3 \text{ fertile seeds /seed head})$   
 $\times 21,625,000 \text{ seedheads/hectare}$   
 $= 505,333,000 \text{ potentially fertile seeds/hectare}$

## **METHODS**

Year one has focused on; early season competition, conventional and emerging chemical options, physical removal of seed heads and management through grazing in the following designs;

### **Sowing into existing pasture**

Over sowing paddocks with highly competitive species such as rye grass, rye corn and Moby barley.

### **Hard seeded legumes**

Over sowing paddocks with Arrowleaf clover using 50% scarified and 50% unscarified seed, this will be assessed over two years at some sites.

**For more information, contact Rob Shea- PPS Project Manager 0438 521 357**

**Or Tess McDougall – Agriculture Victoria 0409 841 492**



Picture: 1 Barley grass infestation in Navarre, Spring, 2019

### **Conventional chemical application**

To assess conventional spray options (gramoxone and glyphosate) including timing of application against seed set in annual species.

### **New chemical application**

To assess other chemical options under agronomist recommendations such as Haloxypol and propaquizafop

### **Chemical resistance**

Barley grass has been sampled from members farms to test for resistance to glyphosate, quizalofop, paraquat and diuron. No resistance has been observed to date.

### **Mechanical removal of hard seeds**

This is being trialed in two methods the making of silage and the cutting and removing of seed matter (lawn mower with a catcher) to observe if the removal of hard seeds reduces the numbers of barley grass in subsequent years.

### **Grazing Management**

Grazing management is also being trialed, this years stocking rate has been used to determine more information for what will be trialed in subsequent years.

## **OBSERVATIONS FROM YEAR 1**

The observations recorded from the above six demonstrations will be used to hone the experimental design for subsequent years.

**Year 1 results report will be available in the new year, this will detail the direction for the trial in subsequent years.**

### **REFERENCES**

Halloran, G.M. and Pennell, A.L., 1981. Regenerative potential of Barley Grass (*Hordeum leporinum*). *Journal of Applied Ecology*, 18(3), pp. 809-813.